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FISH & RICHARDSON P.C.			ALLISON, ANDRAE S	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/716,782

Applicant(s)

COHEN ET AL.

Examiner

Andrae S. Allison

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE filed on October 24, 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-17 and 19-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-17 and 19-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Remarks

1. The Office Action has been issued in response to RCE filed October 24, 2007.
Claims 1, 3-17 and 19-39 are pending.

Drawing

Applicant have shown where the limitations of the amended claim can be found.
Therefore the objection is withdrawn.

Specification

Applicant have shown where the limitations of the amended claim can be found.
Therefore the objection is withdrawn.

112 Rejections

Applicant has shown where support for the limitations of the amended claim can be found in the specification. Therefore, the rejection has been removed.

Response to Rejection Arguments

In response to applicant's argument, on pages 10-12 that Takahaski fails to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., identifying a substantially connected component that includes non-

edges and a plurality of substantially connected edge pixels being substantially connected to the selected edge pixel, wherein the number of non-edge pixels in the substantially connected component is based on a level of tolerance for non-edge pixels) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, Takahashi clearly teaches identifying a substantially connected component that includes non-edges and a plurality of substantially connected edge pixels being substantially connected to the selected edge pixel, wherein the number of non-edge pixels in the substantially connected component is based on a level of tolerance for non-edge pixels in see column 15, lines 57-67 and see column 15, lines 57-67.

On pages 12-14, Applicant further argued that neither Curtright or Prakash teach identifying a substantially connected component that includes non-edges and a plurality of substantially connected edge pixels being substantially connected to the selected edge pixel, wherein the number of non-edge pixels in the substantially connected component is based on a level of tolerance for non-edge pixels, however, neither references were relied upon for the rejection of claim 1.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3-7 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Takahashi (US Patent No.: 6,665,439).

As to claim 1, Takahashi discloses a computer-implemented method for identifying one or more objects within an image (image recognition method; column 1, lines 11-12) the method comprising: receiving an image that includes two or more non-overlapping embedded images (e.g. 40 and 41, see Fig 4); identifying a plurality of edge pixels based on a respective gradient value (detect the color change between two objects, column 12, lines 61-63) associated with each of the plurality of edge pixels (edge image, column 12, line 54); selecting an edge pixel from the plurality of edge pixels (1001, see Fig 11); identifying a substantially connected component that includes non-edges pixels (see column 18, lines 49-61, where interpolation is done is account for breaks in the edges of detected objects) and a plurality of substantially connected edge pixels being substantially connected to the selected edge pixels (detect the shape of objects in the image, see column 12, lines 65-67), wherein the number of non-edge pixels in the substantially connected component is based on a level of tolerance for non-edge pixels (see column 15, lines 57-67, where pixels on both sides of object pixels (i.e. non-edge pixels) and an edge threshold value is used to locate an actual edge); and identifying a bounding area within the image, the bounding area surrounding the plurality of substantially connected edge pixels (e.g. 51, see Fig 4)

As to claim 3, Takahashi teaches the wherein identifying a plurality of edge pixels includes computing the respective gradient value for each of a plurality of pixels in the image (detect the color change between two objects, column 12, lines 61-63).

As to claim 4 Takahashi teaches the method wherein computing the gradient value for each of the plurality of pixels includes, for each pixel comparing respective pixel colors of a neighborhood of pixels surrounding the given pixel (column 30, lines 15-25).

As to claim 5, Takahashi teaches the method wherein computing the respective gradient value for each of the plurality of pixels includes using an image smoothing filter-to-filter noise from the image (column 2, lines 52-56).

As to claim 6, Takahashi teaches the method further comprising passing each component to a processor that extracts the location of the object from the component (column 4, lines 58-59).

As to claim 7, Takahashi teaches the method, further comprising refining the extracted location (column 4, lines 20-54-58).

As to claim 10, Takahashi teaches the method, further comprising merging the bounding are within the image with another bounding area within the image into a single bounding area (column 29, line 63-67).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US Patent No.: 6,665,439) in view of Huang et al (US Patent No.: 5,671,290).

As to claim 8, Takahashi does not disclose expressly the method further comprising using the extracted location to crop the embedded image from the image. Huang discloses a method for identifying people (column 1, lines 23-13) including using the extracted location to crop the embedded image from the image (column 2, lines 57-58). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have added the method for identifying people of Huang to the image recognition method of Takahashi to eliminate unneeded portions not specifically depicted part of the extracted object (column 2, lines 58-60).

As to claim 11, Huang teaches the method further comprising: extracting a location of each of the two or more non-overlapping embedded images from the image; and using the location to seed a crop operation (column 2, lines 57-58).

As to claim 12, Huang teaches the method of wherein using the extracted object location to seed a crop operation includes: for each of the two or more non-overlapping embedded images in the image, using the location to define a cropping area; and cropping all the defined cropping areas in a single cropping operation (column 4, lines 20-24).

As to claim 13, Huang teaches the method wherein: the location specifies an alignment of one of the two or more non-overlapping embedded images with respect to the image; and using the location to define a cropping area includes using the alignment of one of the two or more non-overlapping embedded images to define an alignment of the cropping area (column 9, lines 45 - 60).

6. Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US Patent No.: 6,665,439) in view of Huang et al (US Patent No.: 5,671,290) further in view of Noda et al (Pub No.: US 2002/0030634).

As to claim 14, neither Takahashi or Huang disclose expressly the method further comprising: prior to cropping all the defined cropping areas, adjusting one or more of the defined cropping areas in response to user input. Noda discloses a method

for image synthesis ([p][002], lines 1-2) wherein prior to cropping all the defined cropping areas, adjusting one or more of the defined cropping areas in response to user input ([p][0106], lines 1-3). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combined the image synthesis method of Noda with the image recognition method of Takahashi as modified by Huang so that a user could adjust the location of the boundaries or contours of the identified object(s) so that the object(s) can be cropped properly.

As to claim 16, Curtright does not expressly disclose the method wherein adjusting one or more of the defined cropping areas includes splitting a single cropping area into two or more cropping areas. However, it would have been obvious to split a single cropping area into two or more cropping areas so that if two cropped area are identified as one, the area would be split into two or more before performing the crop operation (OFFICIAL NOTICE).

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US Patent No.: 6,665,439) in view of Huang et al (US Patent No.: 5,671,290) further in view of Curtright et al (US Patent No.: 5,844,570).

As to claim 15, neither Takahashi or Huang disclose expressly the method further comprising: prior to cropping all the defined cropping areas merging two of the defined cropping areas into a single defined cropping area. Curtright discloses a method for generating digital map that includes merging two cropping areas into a single

cropping area (column 6, lines 15-20). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to added the method for generating digital map of Curtright to the image recognition method of Takahashi as modified by Huang so that if one cropped area is identify as two area objects, the cropped areas are merged into a single area before performing the crop operation.

Note that Curtright does not disclose performing the operation prior to cropping all the defined areas, however, it would have been obvious to crop all the defined areas so that if one object is erroneously identified as two, the areas would be merged or combined before carrying out the cropping operation (OFFICIAL NOTICE).

8. Claims 9, 17, 19-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US Patent No.: 6,665,439) in view of Prakash et al (US Patent No.: 6,778,698).

As to claim 9, Takahashi does not expressively disclose the method further comprising splitting the bounding area of the image into a first of the two or more non-overlapping embedded images and a second of the two or more non-overlapping embedded images. Prakash discloses an image segmentation method that includes splitting the bounding area of the image into a first of the two or more non-overlapping embedded images and a second of the two or more non-overlapping embedded images (column 3, lines 37-38). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have combined the image segmentation method of

Prakash with the image recognition method of Takahashi to split edge pixels of multiple objects erroneously identified as a single object into multiple objects.

As to claim 17, note the discussion above, this claim differs from claim 1 only in that claim 17 is computer program product whereas, claim 1 is method and the limitations computer-readable medium, instructions and programmable processor are additively recited in the preamble. Prakash teaches a computer program product stored on computer-readable medium (116, see Fig 2) comprising instructions (program instructions (see Fig 2) and executed by programmable processor (114, see Fig 2).

As to claim 33, note the discussion above of claims 1 and 17, all the limitations are discussed except: receiving a scanned image that includes multiple objects; erasing from the edge pixel map all the edge pixels that belong to the connected component or that are enclosed by the extracted object; and (6) repeating steps (2) through (5) until no more edge pixels are found. Takahaski teaches erasing from the edge pixel map all the edge pixels that belong to the connected component or that are enclosed by the extracted object (column 29, lines 63-65); and (6) repeating steps (2) through (5) until no more edge pixels are found. Takahaski does not expressly disclose receiving a scanned image that includes multiple objects. However it would have been obvious to have receiving a scanned image that includes multiple objects because scanning is a well-known technique for digitizing an image so that editing such as cropping or resized can be performed on the image.

Claims 19-32 differ from claims 3-16 only in that claims 3-16 are method claims whereas, claims 19-32 are product claims. Thus, claims 19-32 are analyzed as previously discussed with respect to claims 3-16 above.

9. Claims 34, 36 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US Patent No.: 6,665,439) in view of Tessadro (US Patent No.: 7,003,161).

As to claim 34, Takahashi does not expressly disclose the method further comprising setting the tolerance level based on a user input. Tessadro discloses a boundary detection method that includes the step of setting the tolerance level based on a user input (see column 4, lines 1-12). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Takahashi and Tessadro to locate an edge position bounded or defined by two significant colored region or color-textured regions with the aid of a GUI (column 3, lines 38-46).

Claim 36 differ from claim 34 only in that claim 34 is a method claim whereas, claim 38 is a product claim. Thus, claim 36 is analyzed as previously discussed with respect to claim 34 above.

Claim 38 differ from claim 34 only in that claim 34 is a method claim whereas, claim 38 is a product claim. Thus, claim 38 is analyzed as previously discussed with respect to claim 34 above.

10. Claims 35, 37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US Patent No.: 6,665,439) in view of Acharaya et al (US Patent No.: 6,094,508).

As to claim 35, Takahashi does not expressly disclose the method further comprising automatically determining the tolerance level as a function of a spacing between the objects (see column 2, lines 53-59). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have combined the teaching of Takahashi and Acharya to localize a region of an image and then determine automatically without user intervention, the threshold to be applied for edge detection within the localization region (see column 2, lines 53-59).

Claim 37 differ from claim 35 only in that claim 35 is a method claim whereas, claim 37 is a product claim. Thus, claim 37 is analyzed as previously discussed with respect to claim 35 above.

Claim 39 differ from claim 35 only in that claim 35 is a method claim whereas, claim 39 is a product claim. Thus, claim 39 is analyzed as previously discussed with respect to claim 35 above.

Inquires

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrae S. Allison whose telephone number is (571) 270-1052. The examiner can normally be reached on Monday-Friday, 8:00 am - 5:00 pm, EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Meta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrae Allison

December 28, 2007

A. A.


BHAVESH M. MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600